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Gieseke

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(54) INLET FREE TORPEDO LAUNCH SYSTEM

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114/319; 114/320; 89/1.81

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(56) **References Cited**

## U.S. PATENT DOCUMENTS

2,837,971	A	*	6/1958	Wosak .....	89/5
2,848,970	A	*	8/1958	Gunning .....	114/319
4,523,538	A	*	6/1985	Hollmann et al. ....	114/238
4,848,210	A	*	7/1989	Bissonnette .....	89/1.81
5,044,253	A	*	9/1991	Moody .....	89/1.81
5,085,122	A	*	2/1992	Berlam et al. ....	89/1.81
5,165,360	A	*	11/1992	Moody .....	114/319
5,410,978	A	*	5/1995	Waclawik et al. ....	114/238
5,834,674	A	*	11/1998	Rodriguez et al. ....	89/1.81
6,216,626	B1	*	4/2001	Curtis .....	114/238
6,584,924	B2	*	7/2003	Jordan .....	114/238
6,595,098	B1	*	7/2003	Wray .....	89/1.809

## FOREIGN PATENT DOCUMENTS

DE 3406921 A1 \* 9/1985 ..... F41F/3/10  
DE 3704343 A1 \* 8/1998 ..... B63G/8/32

## OTHER PUBLICATIONS

Examination of a Torpedo Performance Space and Its Relation to the System Design Space, Frits et al. available @ <http://sbd.npt.nuwc.navy.mil/documents/AIAA2002b.pdf>.\* McCue, Gary, USS Holland Weapons Systems, Copyright 1999, Available @ [http://www.geocities.com/gwmccue/Systems/Weapons\\_System.html](http://www.geocities.com/gwmccue/Systems/Weapons_System.html).\*

\* cited by examiner

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## ABSTRACT

A launcher for torpedoes and underwater vehicles includes an inlet recess in fluid communication with a shutterway recess. A primary shutterway is provided both for ejection of the vehicle and for supplying fluid intake to the launcher. A pump circulates fluid from the inlet recess to the shutterway recess, and a launch tube houses a vehicle such as a weapon, within the launcher prior to launch thereof. A slide valve and impulse tank combination are positioned intermediate the pump and the launch tube, such that the slide valve controls a flow of fluid to the launch tube. A guide can is positioned at the shutterway recess for guiding the vehicle from the launch tube to an exterior of the launcher and fluid within the launcher is continually moderated to enable selective launch of the vehicle with a fluid force.

## **6 Claims, 4 Drawing Sheets**

